



SEP 27 1999

1379

California Regional Office
201 Mission Street, 4th Floor
San Francisco, California 94105
TEL 415 777-0487
FAX 415 777-0244 & 415 777-0772

International Headquarters
4245 North Fairfax Drive
Suite 100
Arlington, Virginia 22203-1606
TEL 703 841-5300

September 23, 1999

Mr. Lester Snow
Executive Director
CALFED Bay-Delta Program
1416 Ninth Street, St. 1155
Sacramento, CA 95814

Re: June 1999 Draft Programmatic EIS/EIR

Dear Lester:

Thank you for the opportunity to comment on the June 1999 CALFED Bay-Delta Program Draft Programmatic EIS/EIR. We want to commend you and your staff for the extraordinary efforts you have made since the October 1997 comment period. In particular, the Strategic Plan and Multiple-Species Conservation Strategy are major endeavors that have significantly improved the Ecosystem Restoration Program Plan.

Many of the issues we raised in 1997 have been addressed to our satisfaction, and we appreciate your openness to our input. For this review we have again asked The Nature Conservancy's field staff to closely examine the sections of the plan that pertain to their project areas. We have included their comments at the end in a section entitled "Detailed Comments".

Our general comments focus on the ecosystem restoration-related portions of the program. In this area we have seen dramatic progress since the last draft. The strategic planning process and the development of the MCSC are very positive steps towards improving the plan. But there is still much to do. The following comments outline issues we believe must be addressed to make the CALFED plan the ecologically sound, scientifically supportable, legally defensible and implementable plan that we all desire it to be.

Issue #1: One Blueprint

We believe that to effectively and efficiently restore the ecosystem there should be one and only one Ecosystem Restoration Plan that sets forth "One Blueprint" for restoration of the ecosystem. All of the CALFED agency programs need to be aligned with that One Blueprint. You wouldn't build a dam with several engineers working off of different plans; you can't restore the ecosystem that way either.

As we reviewed the CALFED documents it was clear that a real effort was made to incorporate and reference other relevant agency plans or planning processes. We could see CVPIA program goals inserted into CALFED goals. Sometimes these were explicitly noted, other times not. The ERP is full of statements promising to coordinate programs. While this is laudable, it does not go nearly far enough.

All of the CALFED agencies' plans need to be more than coordinated and compatible; they need to be combined. Where agency plans address restoration of the ecosystem they need to have the same goals, same measures of success, same priorities. Not similar, the same. One Blueprint.

The CALFED plan will need to subsume, amend and/or replace other plans. There should be no difference between the restoration actions in the AFRP and the ERP, no difference between recovery actions for "Big R" species in the ERP and their ESA-mandated Recovery Plans, no difference between the SB1086 program restoration goals and ERP goals for that geographic area. CALFED agencies need to carry out what a true multi-agency process ought to be able to achieve; they need to meld their restoration programs together in a way that respects the law and efficiently and effectively implements a common vision.

Failure to achieve One Blueprint will greatly undermine CALFED's chances for success. Unless there is One Blueprint that clearly spells out what steps are needed, indeed required, to restore the ecosystem, the concept of "assurances" is rendered meaningless to water user and environmentalist alike. Multiple blueprints invite, even necessitate, opinion shopping. CALFED can provide little in the way of assurances if it cannot represent that it is the CALFED program and only the CALFED program that must be followed.

In addition to creating One Blueprint for ecosystem restoration, it is also extremely important that the other CALFED program elements be developed to complement or at least not undermine the Ecosystem Restoration Plan. Water supply reliability, water quality, levee and other CALFED programs should be designed to avoid ecosystem impacts. And, whenever possible, CALFED should also exploit synergies by designing projects to achieve multiple benefits; for example, fish screens that serve both to protect the environment and improve reliability of water supplies.

We appreciate how difficult our suggestions will be to achieve. We have witnessed the multi-year struggle to achieve something similar just for vernal pools. But it is our conclusion that there is no other adequate alternative. Success will be hard enough to achieve with everybody pulling in the same direction; it will be impossible to achieve with some pulling in different directions.

Recommendation:

- We recommend that, as soon as possible, CALFED institute a process, open to the public, that is aimed at bringing the ERP and other key agency restoration programs into 100% alignment with each other. Steps to do this are:
 1. identify the key agency programs that relate to the ERP
 2. develop procedures for aligning these programs with the ERP
 3. implement these procedures
 4. develop a package of program modifications and amendments
- As part of the ROD, institute the package of modifications and amendments to these programs that bring them all into alignment and create One Blueprint for the restoration of the ecosystem.
- Rigorously review other CALFED program elements to ensure compatibility/consistency with ERP objectives.

Issue #2: "All that is not mandatory is optional"

Two themes have persisted in the dialogue about the ERP. The water users have said that if the ERP doesn't result in regulatory relief, why do it? Similarly the environmental side has said, if the ERP doesn't result in recovery of imperiled species, why do it? The answer to both of these questions is that you shouldn't do the ERP unless you have good reason to believe that by investing in the ERP both recovery and regulatory relief is somewhere down the road.

The current version of the MSCS undercuts the ability of the ERP to respond to this issue by clearly stating that the CALFED plan, even though it has the goal of recovery for "big R" species, is not the ESA-mandated Recovery Plan for those species. This implies that there is a Recovery Plan out there that is in some way different from the ERP/MSCS and is not under the umbrella of CALFED. The perception will be that the Recovery Plan is the *real* plan, the plan that mandates action. It is the plan one needs to deal with to recover the species; it is the plan one needs to satisfy to achieve regulatory compliance and get regulatory relief and assurances. From this perspective the ERP is optional, only the Recovery Plan is mandatory. This, in our opinion, undercuts the value of the ERP and greatly reduces the likelihood that it will be implemented.

The issue is readily fixed if the ERP/MSCS becomes the Recovery Plan for all "Big R" species and there is adequate assurance that it will be rigorously implemented. In fact, the CALFED plan has already absorbed most, if not all of the recovery actions called for in the Recovery Plans. There are other actions outside the "solution area" that can be referenced, but for most of the "big R" species, the bulk of the recovery actions are in the solution area. Explicitly making the CALFED plan the Recovery Plan gives a clear signal that successful engagement in the ERP is the best and indeed the only avenue to ensure recovery and obtain regulatory relief. One Blueprint, one mandate.

Recommendation:

- For "big R" species: Revise the ERP and MSCS to incorporate the existing Recovery Plans in their entirety into the document. At the ROD, have the Secretary of the Interior make a finding that the CALFED plan (ERP and MSCS) is the Recovery Plan for these species.
- For "small r" species: At the time of the ROD, have the Secretary of the Interior make a finding that the ERP and MSCS amend the Recovery Plans for those species that have plans.
- Additionally, the Secretary needs to delineate a process to ensure the alignment of future Recovery Plans for "small r" and "m" species with CALFED plans.

Issue #3: The "funnel of logic" fails to support the implementation bundles.

During the last major round of comments, the ERP was criticized for being a laundry list with little rationale offered as to how one of the 700-plus actions described might be picked over any other. The solution to this criticism was the Strategic Plan. This plan was to be the filter that would winnow down the to-do list to a few top priority actions. The Strategic Plan was to be the rational basis for selecting priority actions.

The ERP-related documents suggest a “funnel of logic”. The universe of “things” is narrowed in Volume I where species, habitats and processes are identified and emphasized. In Volume II the universe of “actions” is narrowed. While the list is long, over 700 actions, it is the result of a winnowing process. Then, in turn, we look to the Strategic Plan to clarify the process of how Vol. I and II lead to a handful of highly strategic actions that ensure that CALFED is best positioned for success.

The Strategic Plan is very readable and has an obvious logic. While somewhat disjunct from the rest of the Strategic Plan, the list of Draft Stage 1 Actions in Appendix D even makes some sense.

One would expect that based on this funnel of logic it would be possible to predict what actions would be selected for early implementation. After all, the purpose of the Strategic Plan was to provide the basis for selecting the very best actions to implement. But instead of finding the logical conclusion of this process delineated in the Implementation Plan, we find a non sequitur. While some of the ERP actions called for in the Implementation Plan are, in a very general way, explained by the funnel of logic presented in the text, most of the actions appear to have arrived from left field. Ironically, further refinement and explanation of these bundles since the issuance of the Draft EIS/EIR have only made matters worse. Others will offer detailed criticism of what is in the bundles, our issue here is not whether we like what is in the Stage 1, ERP actions (mainly we support them), rather our issue is about how these actions were derived. We are concerned they are not defensible.

It is clear that part of the problem stems from the desire to create geographically-based “bundles”. While there is a certain appeal to the concept, it has clearly distorted the ERP actions in the South Delta beyond anything supportable by the CALFED documents. Nothing in the Strategic Plan suggests that “bundles” are a top consideration in setting priorities. We fear that this bundling concept will hinder an objective implementation of the ERP and ultimately inhibit the ability of ERP to recover species. Moreover, we fear that this bundling concept will be perceived as a big, publicly financed “mitigation” scheme designed to offset water development impacts. The more CALFED links these actions geographically, the more likely this issue will vault to the forefront. We do not want to see the ERP viewed in this light.

We do believe that it is wise to explore synergies between program elements—for instance, ERP actions that are facilitated by implementing other priority program elements should probably be expedited to take advantage of that synergy—but not at the expense of pursuing the highest ERP priorities first.

This plan aspires to be a long-range plan. If it is going to serve in that capacity we must have a clear understanding as to how an action moves from Volume II to implementation. We need to be clear how these priorities are set and how we account for the opportunity costs associated with every selection. The current draft fails miserably in this and this failure is manifesting itself in the controversy over the so-called “South Delta Bundle”. It is a harbinger of things to come unless this issue is fixed.

Recommendation:

- Go back and reconsider the Stage 1 actions in light of the Strategic Plan. Show your work. Describe in some detail the thought process that was used in selecting the new Stage 1 actions. Where necessary, recommend new, more defensible Stage 1 actions.

- Abandon the bundling concept. If equity with water development is an issue deal with it some other way, programmatically, but not in a way that distorts the priorities of the ERP.
- Identify and dutifully implement the priorities of the ERP, perhaps reserving a small fund to implement ERP actions that are synergistic with implementation of other CALFED program priorities.

Conclusion:

The CALFED Bay-Delta Program is worth doing and it is worth doing right. It is frustrating to deal with these mounds of documents trying to make them better. The temptation is to cut to the chase and get on with it. But when we step back and look at the magnitude of the program, the time it will take to implement and the challenges that adaptive management present, it is clear that we must take the time now and put in the effort to do the best planning possible. The CALFED plan documents have become unwieldy. We encourage you to clean them up, integrate the MSCS with the ERP documents, and to aggressively edit them. But most of all we simply encourage you to keep at it until it's done—right. We will.

Sincerely,



Steve Johnson
Project Director



Leslie Friedman Johnson
Director, California Water Program

Comments on June 1999 Draft Programmatic EIS/EIR Technical Appendices

We appreciate the opportunity to comment on the Technical Appendices to the Draft EIS/EIR. The following lists the plans which we have commented on and the lead reviewer from the Nature Conservancy. Additionally, Keith Whitner of U. C. Davis provided input to comments relating to the Yolo Basin and Sacramento-San Joaquin Delta areas, and John Cain of the Natural Heritage Institute provided input to comments on the San Joaquin River, East San Joaquin and West San Joaquin areas.

Appendix

TNC Lead(s):

Ecosystem Restoration Program Plan Volume 1

Christine Tam

Ecosystem Restoration Program Plan Volume 2,
Revised Phase II Report,
ERPP Strategic Plan for Ecosystem Restoration, and
Implementation Plan (by area)

- Sacramento-San Joaquin Delta
- Suisun Marsh/North San Francisco Bay
- Sacramento River
- North Sacramento Valley
- Cottonwood Creek
- Colusa Basin
- Butte Basin
- Feather River/Sutter Basin
- Yolo Basin
- Eastside Delta Tributaries
- San Joaquin River
- East San Joaquin
- West San Joaquin

Valerie Calegari, Ramona Swenson
Jennifer Martin
Curtis Knight, Daryl Peterson
Rich Reiner
Curtis Knight, Daryl Peterson
Curtis Knight, Daryl Peterson
Rich Reiner
Curtis Knight, Daryl Peterson
Valerie Calegari
Ramona Swenson
Steve Johnson
Steve Johnson
Steve Johnson

Watershed Program Plan

Rich Reiner

Levee System Integrity Program Plan

Valerie Calegari

Multi-Species Conservation Strategy

Christine Tam

Ecosystem Restoration Program Plan Vol. 1-Ecological Attributes of the San Francisco Bay-Delta Watershed

General comments:

- We believe that it is critically important to this program to understand the role that flows have at the ecosystem level, not just for fish. While we feel the program has evolved considerably in the right direction since the last draft, "ecosystem thinking" has yet to pervade the document. We would like to refer you to the report from McBain and Trush that was submitted to you during the last round of comments. Few of their recommendations have been incorporated into the 6/99 draft. We suggest you consider them again.

Detailed comments:

- P. 133 - Fresh Emergent Wetland. We recommend elaborating on this description to include non-tidal permanent freshwater wetlands similar to those described in the Multi-Species Conservation Strategy. Currently, the Fresh Emergent Wetland Habitat description focuses on the Delta and does not encompass permanent wetlands along the Sacramento & San Joaquin River mainstems. Central Valley wetlands have experienced over a 95% reduction from historic extent. Though mostly managed wetlands remain, these areas are critical wintering grounds for migratory birds along the Pacific Flyway, even now supporting nearly 70% of the migratory bird population. Wetlands in the Central Valley are species rich and have probably supported the highest biomass of wildlife in California. Inclusion of this type of habitat would fall within the umbrella Objective 2 of Goal 4 (Table 9, P. 101), which states that 1 of the 5 Strategic Objectives for habitat is to "restore large expanses of all aquatic, wetlands, and riparian habitats in the Central Valley and its rivers." We recommend that the Strategic Sub-objective (P. 102) for Fresh Emergent Wetland also reflect this larger vision with the addition of "...and other areas of the Central Valley and its rivers." Wording in the general description (P. 133) should also be changed to be more inclusive.
- P. 347-350 - Native Resident Fish. Add specific mention of the hitch, a native resident fish that occurs in the Westside San Joaquin (Orestimba Creek, Marsh Creek, Del Puerto Canyon, Los Banos Creek), East Delta (Cosumnes, Mokelumne Rivers), Eastside San Joaquin (Stanislaus, Tuolumne, Merced rivers), and San Joaquin River (from the confluence with Merced River to the Delta) among others.
- P. 360 - Waterfowl. We recommend adding specific reference to sensitive species such as the Aleutian Canada goose (Federally threatened), that are found within the project area. Aleutian Canada geese are notably found in the Colusa Basin Ecological Management Zone, Butte Basin Ecological Management Zone, and San Joaquin River Ecological Management Zone.

Ecosystem Restoration Program Plan Vol. 2-Ecological Management Zone Visions

General comments:

- The Strategic Plan defines the difference between “restoration” and “rehabilitation” suggesting that much of what CALFED intends to do is rehabilitation and not restoration. To rehabilitate, as is pointed out in the Strategic Plan, recognizes that “physical and chemical processes have been fundamentally altered by human activity” (P.23-24). This should be a major theme in Volume II and throughout the documents.
- The recognition that we are working within an altered system is critically important, especially in regard to streamflows and sediment budgets. We find it encouraging that Appendix D of the Strategic Plan (Stage 1 Approach P. 18) states that “it will be necessary to conduct targeted research and to monitor Stage 1 Actions to determine the optimal combinations of flow and sediment that will best restore [should be rehabilitate and maintain?] aquatic and riparian habitat in light of the regulated flow regime”. We suggest it should also note the role that other CALFED actions, particularly offsite storage options such as Sites Reservoir will have in determining these flows.
- It is encouraging to see a shift towards process restoration in the CalFed documents. Establishing limited meander zones and potentially “naturalizing” regulated flows are critical components of process restoration. Current management activities, such as land acquisition and riparian restoration plantings, can and should continue in conjunction with process restoration. Proposed actions such as set-back levees or removal of levees can be implemented immediately as it is generally recognized that re-attaching the channel and floodplain is critical to river function. But at the same time, there are a number of studies that should be undertaken to improve our understanding of these ecosystems and what potential impacts these restoration activities may have decades from now. Using the Sacramento River as an example, a geomorphic history of the river should be constructed to better understand where the river has come from to reach its current form and where it may head in the future. This history should include an analysis of historic photography, development of a sediment budget, and establishment of a network of surveyed channel cross sections. These studies need to continue as we implement. We need to see how our restoration has changed the river. Has it changed from some “historic” condition? Have areas of disturbance changed? Has the channel simplified? How are any of these changes temporally/spatially correlated with changes in hydrology? These answers then feed back into the adaptive management loop.

Sacramento-San Joaquin Delta

General comments:

- Coordination of corridors - The restoration of riparian habitat should occur along the migratory routes favored by salmon, routes called out in the Strategic Plan’s North Delta, East Delta, and San Joaquin River Habitat Corridors (Strategic Plan, Appendix D, D-2 to D-3). By targeting specific corridors within the Delta for habitat enhancement now, CALFED would carry out the wildlife-

friendly levee work proposed in Targets 5 and 6 (P. 113) of the Stage I Actions for the Levee program in the Revised Phase II report.

- Levee Setbacks – Setback levees may prove critical to simultaneously improving conveyance, providing long-term flood control, and improving habitat. CALFED needs to articulate a vision for set-backs and define a program that keeps these options open in the urbanizing parts of the Delta.
- Invasive Alien Species – These are a huge threat to successful restoration. We suggest you prioritize those posing the most serious threats to the targeted ecosystems. These priority species should be listed under Target 8 for ERPP (P. 120). We suggest looking carefully at the Asian clam (which has effectively restructured the foodweb) and inland silversides and black bass (which are filling up niches previously inhabited by native species).

Detailed comments:

- P. 49 ¶4 - Boat Wakes. CALFED must immediately address the on-going loss of existing habitat due to the impacts of boat wakes, as well as the threats they pose to the integrity of future restoration efforts. The Strategic Plan (Appendix D) discusses the problem of boat wakes in Action 5 for the East Delta Habitat Corridor (P. D-9). While speed limits are in place, they are not enforced. This point should be emphasized in the ERPP V2, and addressed in the Revised Phase II report's Stage One Actions through stricter enforcement of speed limits.
- P. 64 ¶6 - Electric Generating Plants. We do not believe that the regional effects on water temperature caused by these facilities are a major concern for native fish in the Delta. The problems associated with these plants concern entrainment.
- P. 67 ¶1 - Hatcheries. We are currently producing enough hatchery salmon to "get us through the recovery period." As we continue to make improvements to salmon habitat, as we have through past and proposed restoration projects, we should decrease hatchery fish and let the natural populations fill in these niches.
- P. 69 ¶6 - "Gated connection". This issue is brought up again on P. 88 of this document under Target One for Bay-Delta Foodwebs. Doesn't this facility have all the problems previously anticipated for a Hood diversion? Why are they not noted?
- P. 70 ¶s 4 and 5 - East Delta Floodplain Overflow Basins. These floodplain overflow basins possibly contribute toward subsidence reversal, but could also harm native fish species and waterfowl if not carefully designed. Stranding is an issue as is the loss of habitat for wintering waterfowl habitat. Sandhill cranes particularly use the farmland in the Mokelumne corridor. When these floodplains are inundated, waterfowl must have sufficient lands of appropriate types to provide roosts and feeding grounds. As more crane habitat is lost to vineyards, overflow basins conflict with the needs of these species.
- P. 72 ¶s 1 and 2 - Tidal Marsh Restoration Vision. Your suggestion to target islands where the ratio of levee to protected land is high is a good one. As projects of this type are better developed in the North Delta (Prospect Island and the McCormack Williamson Tract), we suggest using the lessons learned during these restoration projects to guide your work in the South Delta. At this time, the

most prudent action in this area would be to delineate those islands and tracts of appropriate elevation and high levee to land ratios, and then protect them from land uses which would preclude their eventual conversion to tidal marsh habitats, perhaps using a short-term agricultural easement.

- P. 72 ¶5 - Urbanization in the Delta. CALFED must articulate a strategy to prevent urbanization of the Delta. Without such a strategy options for restoration, flood control and conveyance alternatives will be precluded.
- P. 74 ¶2 - Seasonal Wetland Habitat. While you note the importance of this habitat for birds, you do not mention fish--a major oversight. We know from research that has been conducted on fish use of seasonal floodplain in the lower Cosumnes River that this type of habitat is supporting juvenile salmon and splittail. The lack of this type of habitat is potentially one of the major stresses to salmon and splittail; when this habitat is restored the needs of these fish species must be addressed in the restoration plan.
- P. 74 ¶8 - Agricultural lands. We agree that habitat for wintering waterfowl should be improved. Fulfilling this goal will require a mix of permanent protection of agriculture and landowner incentives for managing for wildlife. An important element of the incentive program will have to be an exemption to the fish taken in their screens. Otherwise, no one in the Delta could afford to participate. In your Strategic Plan, Action 6 for the East Delta Habitat Corridor calls for the incentives to habitat improvement on Staten Island, which if developed could offer templates for use on other Delta islands important to wintering waterfowl. We urge you to carry forward this action in your implementation plan.
- P. 98 ¶4 - Short-season rice is being grown successfully in the Delta and should be added to your list of wildlife-compatible crops. More important, CALFED must address the most serious threat to waterfowl and raptor habitat in the Delta: the conversion of annual crops to vineyards.
- P. 82-83 - Central Valley Streamflows. If this is—as most experts agree—one of the most important factors in ecosystem restoration, why is it not a higher priority?
- P. 85 ¶1 - Coarse Sediment Supply. Again, this is too important NOT to be a higher priority.
- P. 89 Targets 1A-1F - Tidal Perennial Aquatic Habitat. We need a definition for “shallow water habitat.” Neither the MSCP nor Volume I of the ERPP offers a definition for this highly controversial habitat type. In general, it would be useful to distinguish between tidal perennial aquatic habitat that is 5-9 feet deep and seasonally flooded, shallower habitat, which researchers have found to be favored by native fishes. This type of habitat appears to have more payoffs for native fishes in the Suisun Marsh and West Delta than in the South Delta.
- P. 90 ¶3 - Frank's Tract. What is the rationale for pouring all this money (and dirt) into Frank's Tract? There are other potential restoration sites that would not impact agriculture. According to DWR's land use surveys for the Delta, 4% of the legal Delta or 33,500 acres are classified as idle and another 10% of the legal Delta or 75,500 acres are classified as "native." For more information on the distribution of these lands, refer to "An Environmentally Optimal Alternative for the Bay-Delta: A Response to the CALFED Program" published by the Natural Heritage Institute in 1998.

- P. 102 ¶3 - Screens. South Delta pumps and power plants should be a higher and more immediate priority for fish screening than agricultural diversions. Before undertaking the massive, expensive effort of requiring screens on all agricultural pumps in the Delta, CALFED needs studies that look at the impacts on fish of pumps of various sizes at different times of the year. Requiring screens on all agricultural pumps could have serious negative effects on the economy of the agricultural community, and so must be scientifically justified. The Strategic Plan echoes this rationale on P. D-2 when it lists entrainment of fishes in power plants and south Delta State and federal diversions (not, please note, small agricultural pumps) as one of the eight factors having the greatest influence on Delta ecological health.
- P. 102 ¶8 - Levees. Target one sounds great but is vague. What do you mean by "changing vegetation maintenance?" Second, this target does not seem to line up with the Levee Program's major goal, the improvement of all Delta levees to PL 84-99 standards, which call for increased mitigation for loss of vegetation.
- P. 103. ¶7 - Dredging. The dredge bank idea is a good one.
- P. 104: Target 1 - Invasive Aquatic Plants. The control of water hyacinth should be a higher priority. Water hyacinth offers absolutely no habitat for our target species; it covers the surface, blocks sunlight from penetrating the water at all, and lowers phytoplankton production. Furthermore, it provides habitat for juvenile mitten crabs. Target 2: Invasive plants are not just coming in at the Nevada border; we need restrictions on sales to nurseries. Water hyacinth is available at Capital Aquarium; they collect it from Delta.
- P 105, Target 1 - Invasive Aquatic Organisms. We must focus on public education to address the problems of angler introductions of both baitfish and sportfish (i.e. Lake Davis' Northern pike).
- P 105 - Predation and Competition. Programmatic Actions 1A and 1B are unnecessary. CDFG has been studying predation at Clifton Court Forebay for the past 10 years. Predation is a serious problem here. It is not, however, the only problem. Once fish get down there, they will die of either predation, entrainment, or in transport. Each of these issues should be addressed.
- P. 106 - Enforcement for harvest of wildlife. The already increased enforcement seem to be sufficient to deal with this issue. Consider increased enforcement to mitigate the adverse effects of recreational boating.
- P. 107 - Boat Wakes. This is key area where enforcement of existing laws would serve to directly protect CALFED ERP investments. In order to maintain improvements in levees and the ecosystem, CALFED must ensure that boat wake damage is kept to a minimum. The managers of Staten Island have used pilings to keep boats out of the areas between their levees and in-channel islands, and the results show that when boats are excluded, sediment accretes, riparian habitat is allowed to stabilize, and levees are buffered.

Suisun Marsh/North San Francisco Bay

Detailed comments:

- P. 125 - Suisun Bay and Marsh Ecological Management Unit vision mentions alternate cooling sources for the Pittsburg power plant and modified oil refinery operations in the Bay. There is no further mention of these goals in the Strategic or Implementation plans. Implementation actions within the next 7 years may be a low priority, however some strategic actions should be noted in the Strategic Plan for future implementation.
- P. 125-126 - The visions for Napa River, Sonoma Creek and Petaluma River Ecological Management units are generally good, especially for marsh and tidally influenced habitat. The visions should be expanded or enhanced to include upland riparian and watershed habitats, especially the vision for the Petaluma River. Healthy riparian and watershed habitats are essential to maintaining healthy marshes, supplying nutrients, water flows and good water quality to the lower reaches of the waterways.
- P. 128 - In the Visions for Reducing or Eliminating Stressors, invasive species are a leading cause of stress to native species. This vision should address reducing the current, as well as the future, impact of invasive species.
- P. 130 - Visions for Species. We recommend adding the following targets:
 - River lamprey – found in Napa River
 - Specific mention of hardhead under “Native Resident Fish”. The Napa River hosts a unique population isolated from the Central Valley in the mid-river.
- P. 136 - Bay-Delta Aquatic Foodweb Programmatic Action 1A states, “Actions described to restore streamflow, floodplains, tidal wetlands and sloughs, and riparian habitat would increase primary and secondary productivity in the Suisun and North San Francisco Bay areas.” We can’t find where these actions are further described.
- P. 141 - Riparian and Shaded Riverine Aquatic Habitats-Target 1 states that 60% restored habitat should be more than 15 yards wide and 25% should be no less than 5 yards wide and 1 mile long. The level of precision surprises us. What then are the specifications for the remaining 15%?

Sacramento River

- P. 150 ¶4 - Sacramento River Wildlife Refuge should be added to the list of National wildlife refuges adjacent to or within 5 miles of the Sacramento River. Sacramento River Wildlife Refuge is different from Sacramento Wildlife Refuge.
- P. 152 - Based on information in the Strategic Plan, Thomes Creek, and possibly Stony Creek, should be mentioned along with Cottonwood Creek as needing protection “to ensure that the gravel deficit does not increase.”

- P. 159 - There is no basis for the targeted peak flow releases from Keswick Dam. It is highly questionable that peak flows of 15,000-20,000 cfs will support the natural processes described. For example, 1.5 year recurrence interval flows (often cited as channel forming flows) at Hamilton City gage were around 50,000 cfs from 1946-1980. Throughout all the documents the need for determining optimal flow regimes is identified. The same is true here. This of course is a very complex issue. The frequency, magnitude, duration, timing and rate of change of streamflows that form channels, create and maintain riparian habitat (all species of vegetation), and are good for fish (all species, life stages and runs) will never occur in one year. An optimal flow regime will have to vary, perhaps predictably, from year to year. Algorithms exist that facilitate the development of variable flow regimes within some acceptably defined range and should be utilized once eco-flow needs are outlined.
- P. 170 - Visions for Species. We recommend adding the following targets:
 - Valley elderberry longhorn beetle (Federally threatened)
 - Neotropical migratory bird guild
- P.175 - The rationale for manipulation flows in late-winter is largely based on what is good for anadromous fish, especially winter-run and steelhead. This could be to the detriment of riparian vegetation recruitment and should additionally be done in context of the system's sediment budget.

North Sacramento Valley

General comments:

- A critical aspect of the upper Sacramento River and tribs confluences is an understanding of the flow regime on the Sacramento that sustains natural meander and flood plain ecology. The document does not adequately address how we are going to establish these flows but ironically the document implies that that these flows regimes have already been determined.
- There is too little attention paid to phasing. Monitoring program design does not seem to be emphasized. Adaptive management will require baseline knowledge of the systems. We are concerned that CEMARP does not seem to be very integrated into the program.
- Coleman National Fish Hatchery is a major detriment to the restoration of native runs (winter run) on this critical creek. Three hundred and fifty tons of rotting carcasses and 12 million hatchery smolt are dumped into 250 cfs of flow at Battle Creek. With close to \$50 million currently being directed to restoration of this system the issues at Coleman should be dealt with.
- For some reason Winter Run Chinook were left out of the section on Battle Creek.

Detailed comments:

- P. 196 - Besides needing to consider disease management at the Coleman National Fish Hatchery, numerous private hatcheries along Battle Creek will need attention as several diseases have already been introduced into this watershed.

- P. 198 - There is a short discussion on the habitat value of the Main and North Fork reaches of Battle Creek, however there is no mention of the South Fork. The South Fork may have better habitat for spring and winter run on average and wet years than the North Fork.
- P. 198 - There is no mention of the cold springs, which feed much of the base flow of Battle Creek. A protection strategy for these springs should be part of the CALFED Vision. The plan should also recognize a stream flow augmentation strategy of purchasing land and dedicating water rights.
- P. 198 - There is no mention of the extreme susceptibility of winter and spring run Chinook salmon to summertime harassment and poaching. The CalFed vision should include a protection strategy to control these factors.
- P. 202 - In "Visions for Reducing or Eliminating Stressors," it should be mentioned that many of the stressors can be related to fragmentation of the watershed landscapes. An effort should be made by CalFed to identify critical habitat and to implement measures, which would slow or stop fragmentation and parcel subdivision. Conservation easements in zones of critical habitat might be one tool.
- P. 203-204 - Visions for Species. We highly recommend adding winter-run Chinook salmon.
- P. 206 - In the discussion of programmatic actions in the Stream Flow section it should be recognized that much of the summer flow of Battle Creek is base flow from ground water. It will be important to maintain the existing land use in this watershed to protect base flows. The expansion of water intensive agriculture and housing could threaten the summer base flows.
- P. 208 - Lower Battle Creek should be mentioned in the "Natural Floodplain Flood Processes" section. The restoration of floodplain habitat on Bloody Island would provide significant rearing habitat for salmon.
- P. 209 - In the "Essential Fish Habitat" section mention should be made of strategies to improve base flows for native fish such as roach and suckers during summer months.

Cottonwood Creek

- P. 219 - In addition to stating that instream gravel extraction should be "managed to protect salmon spawning and rearing habitat," there should be assurances that sediment flow will be unimpaired on Lower Cottonwood Creek.
- P. 221 - The Aggregate Resource Management Plan should specify that gravel pits should be no deeper than the thalweg of the creek channel. Structures placed in the creek channel to prevent incision are a short term and expensive approach to a large scale problem.

Colusa Basin

- P.227 - There should be mention of remnant stands of Valley Oak stands in this region, for example, Burch/Rice Creek area. Remnant Valley Oak stands greater than 40 acres are very rare. Options for protection could include easements and fee acquisition.
- P. 232 - Visions for Habitats. We recommend adding Fresh Emergent Wetland, making sure it encompasses permanent wetlands not restricted to the Delta.
- P. 232 - Visions for Species. We recommend adding the following targets:
 - Fall-run Chinook (Proposed federally threatened). Though this population in Thomas Creek will never be as high as the 5,800 estimated by CDFG in 1966 because of inconsistencies in flow, there should be mention of these anadromous fish here.
 - Tricolored blackbird (CA Species of Concern); noted in MSCS but not here; the Colusa NWR provides exceptional habitat for this bird.
 - White-faced ibis (CA Species of Concern).

Butte Basin

- P. 255 - Visions for Habitats. We recommend adding Fresh Emergent Wetland, making sure it encompasses permanent wetlands not restricted to the Delta.
- P. 258 - Visions for Species. We recommend adding the following:
 - Greater sandhill crane (CA threatened)
 - Tricolored blackbird (CA Species of Concern)

Feather River/Sutter Basin

- P. 269-284 - Streamflow recommendations are throughout this section. Are these variable enough? Do they take into account rates of change—very important for riparian vegetation recruitment and for salmonids especially during early life stages?
- P. 282 - The Sutter Bypass vision does not mention its importance as a spawning and rearing area for splittail.
- P. 284 - Visions for Species. We recommend adding the following targets:
 - Giant garter snake (Federal & CA threatened). Significant populations in Sutter Basin.
 - White-faced ibis (CA species of concern)

Yolo Basin

General comments:

- This whole section is very well-written and well-considered.

Detailed comments:

- P. 340 ¶2 - We absolutely agree that providing permanent connections between the mouth of Putah Creek and the Delta is critical.
- P. 341 ¶3 - We support improving fish passage at Solano Diversion Dam to facilitate salmon and steelhead passage.
- P. 343 ¶6 - What actions are directed at improving the coarse sediment supply for channel dynamics, channel maintenance, and substrate for vegetation?
- P. 344 - Visions for Habitats. We recommend adding Seasonal Wetlands
- P. 348 ¶3 - We recommend the issue of gravel be addressed in the implementation plan.
- P. 350, ¶9 - As we stated earlier, the cost of screening all agricultural pumps is enormous. Before such an enterprise is undertaken (and the three diamonds seems to indicate this is a top priority), it should be demonstrated that there is a significant loss of native fishes to these pumps.
- P. 348 ¶1 - We agree with and support your proposal to prevent salmon at Knights Landing Ridge Cut from migrating upstream into the Colusa Drain, and agree that downstream migrating juvenile salmon and steelhead should not be discouraged from moving out of the Sacramento River and using the excellent habitat of the Yolo Bypass for rearing.

Eastside Delta Tributaries

General comments:

- We appreciate your addressing several comments provided by The Nature Conservancy in 1997, such as: (1) the discussion on the importance of the floodplain habitat at the confluence of the Cosumnes, Mokelumne and Calaveras Rivers as they meet the Delta (354), recognition of legal as well as illegal harvest as a stressor (365), and acknowledgment that the flow targets recommended for the Mokelumne are not as feasible or desirable as previously thought (Target 3, P. 369).
- We have some additional comments for the June 1999 draft, including several that were previously made in 1997 but not incorporated, as detailed below.

Detailed comments

Description of Cosumnes Ecological Management Unit (P. 355-357)

- Include information on fish use of the Cosumnes floodplain, based on recent studies at the Cosumnes River Preserve. Both splittail and outmigrating juvenile Chinook salmon have been found in flooded areas. Splittail numbers were high in winter-spring 1998 but not 1999. Juvenile Chinook were more abundant in 1998 than in 1999. (See most recent IEP newsletter).
- P. 356 ¶3 - Recent estimates of returning adult Chinook salmon by CDFG spawner surveys suggest that the annual run is about a few hundred fish, not "100 fish or less." According to another CDFG study underway, it is incorrect to state that the Cosumnes River "has extensive gravel areas suitable for Chinook salmon spawning." Spawning areas are not extensive in the Cosumnes River, and are certainly more limited now compared to historic conditions.
- P 356 ¶8 - Adult Chinook salmon do use the fish ladders at Granlees Diversion Dam, but an informal inspection by CDFG in 1998 suggested that the ladders' design is deficient. In addition to Granlees Diversion Dam, there are three concrete summer dams/low flow crossings in the lower river, well below the spawning area. According to the Fisheries Foundation of California and an informal inspection by CDFG, these three dams are low flow barriers to upstream migration and act as a migration bottleneck in normal to low-flow years. Minimum flows needed for effective passage at these dams are approximately 150 cfs.
- P. 356 ¶7 - We think there are more than 3.6 miles of levees on the left bank.
- P. 357 ¶4 - Include splittail habitat on inundated floodplain for lower Cosumnes River.

Vision for the Ecological Management Zone

- P. 362 ¶5 - Focus for Cosumnes River should also include giant garter snake habitat, since one of the largest populations is found on a tributary, Badger Creek.

Vision for the Cosumnes River Ecological Management Unit

- We disagree with the assessment that "Opportunities to restore fall-run Chinook in the Cosumnes River are limited" (P. 357 ¶3). The situation is not that intractable, nor is it just a fact of natural conditions that can't be improved. On p 363 ¶1 states "The fall-run Chinook salmon population can be sustained through improvements in streamflow, channel and floodplain morphology, spawning and rearing habitat, fish passage at diversion dams, and reducing losses to unscreened diversions and illegal harvest." The Cosumnes River still retains much of its natural hydrology. Large-scale hydrology and geomorphology studies by UC Davis are underway for restoration, the flooded floodplain in the lower river provides rearing habitat and (more importantly) demonstrates the potential to restore more habitat, and efforts are underway now to improve passage at the low-flow barriers. The low Fall flows are due to a reduced groundwater table, a problem that could be addressed. We are concerned that a reader might erroneously conclude from the text on P. 357 that restoration efforts are not worthwhile on the Cosumnes River.
- P.363 ¶4 & 5 - Setback levees are not feasible much beyond Twin Cities Road, because the channel upstream is deeply incised. Planned studies by the Army Corps of Engineers will look at the feasibility of constructing flood bypasses for the river in this reach.

Vision for Ecological Processes

- P. 364 - Central Valley Streamflows. The text states that "Increased flows would help restore ecological process and functions that maintain habitats". The text should indicate that increased flows (i.e. water releases from dams) should mimic natural flow regimes (that are having water released at the appropriate times and in the appropriate amounts to mimic natural flow regimes). We also suggest adding a line indicating how streamflows are affected in these rivers (reservoir storage and releases, instream diversions of surface flow, and groundwater pumping). The water table in the middle reach of the Cosumnes River is lower than historically, due to channel incision and groundwater pumping. As a result, there is little or no flow in the river in the summer and fall, which impairs the fall migration by spawning Chinook salmon. Including an explanatory sentence here would avoid later confusion when the text discusses water diversions as stressors (P. 365) only in the context of fish entrainment and not in terms of impacts on streamflow, and would provide a better context for the programmatic actions outlined later for streamflows (P. 369).
- The topic of organic material transport in these systems should be added to ecological processes; it is not discussed anywhere in the section. Much of the biology of rivers revolves around snags, vegetation falling into river, etc. that contribute materials to the food web and structural habitat for fish.

Vision for Habitats

- P. 365 - Seasonal Wetland Habitat. The text erroneously mentions Butte Sink, which is not part of the Eastside Tributaries.

Vision for Reducing or Eliminating Stressors

- P. 365 - Water Diversions. As mentioned above, the text discusses water diversions as stressors only in the context of entrainment of fish into diversion, but ignores the impacts of reduced instream flow due to surface water diversions and ground water pumping.
- Habitat loss to agriculture and development - The Conservancy has identified agricultural conversion to perennial crops (vineyards and orchards) and urban subdivision as sources of stress in the area, but the plan does not mention these stressors at all.

Vision for Species

- We encourage CALFED to add the following species to this section: (taken from earlier TNC comments, which weren't incorporated):
- Aquatic organisms:
 - Sturgeon, Pacific and river lamprey, hitch, hardhead, and the aquatic foodweb (specifically, aquatic invertebrates). (Note: river lamprey should be mentioned as a species worthy of recovery. According to experts, the lack of concern for these species is a serious omission. Unfortunately, evidence of the species decline is purely anecdotal and further research is critically needed.)
 - A mention of the need to protect and maintain assemblages of native resident fishes where they presently occur should be included in this and every ecological zone. According to Moyle (1997), it is remarkable to have a river that has the full complement of native fishes together in intact assemblages, along with native frogs, turtles, and, presumably invertebrates, since most places have either exotic species mixed in or the amphibians absent.

- Amphibians and reptiles:
 - Red-legged frog, California tiger salamander, and western spadefoot, giant garter snake, and western pond turtle.
 - P. 366 - For giant garter snake and western pond turtle: Address need to control of exotic predator species (striped bass, cats) to the vision statement. Just improving stream channel, floodplain, and riparian processes won't solve the problem. We will need to control exotic predators by habitat manipulation and other methods in order to turn around population declines.
- Birds:
 - Yellow-billed cuckoo, least Bell's vireo, yellow warblers, white-faced ibis, neo-tropical songbird guild, and shorebird guild.
- Mammals:
 - Riparian brush rabbit (introduction should be considered to Cosumnes), river otter, ring-tailed cat, mink, and deer (corridors to the foothills).
- Plant Species and Communities:
 - P. 367 ¶3 - Include examples of key communities and species. Floodplain plants/communities include California hibiscus, button-bush thicket, native grasslands, great valley oak, and seasonal wetlands. Floodplain vernal pool species include California linderiella (federally listed threatened), vernal pool fairy shrimp (federally listed threatened), vernal pool tadpole shrimp (federally listed endangered), legumere.

Integration with Other Restoration Programs

- P. 367 - Cosumnes River Project. Update the second sentence to read "The Cosumnes River Project encompasses nearly 37,000 acres, including Staten Island, the McCormack-Williamson Tract, and the lower Cosumnes floodplain, vernal pools, grasslands, and blue oak woodland." Include State Lands Commission as a partner.

Restoration Targets and Programmatic Actions

- Ecological Processes:
 - P. 369 – Streamflows:
 - Action 1A mentions the development of new water supplies. Please clarify what this means.
 - We suggest adding a programmatic action to build a computerized water balance model for the river.
 - Target 4 - The text recommends specific target flow events, but does not indicate whether these target flows are for all three eastside tributaries, or just the Mokelumne.
 - P. 372-373 - Floodplain and Flood Processes. These target, actions, and rationale are generally well-thought out.

- P. 373-374 - Stream Temperatures. The programmatic actions outlined in the text address only releases of cold reservoir water on the Mokelumne and Calaveras Rivers. Another action should be included for the Cosumnes to increase the amount of shaded riverine habitat to minimize heating of the river. The text makes a good point when it notes that riparian woodlands are especially important along the Cosumnes River, since it does not have a source of cold reservoir-bottom water.
- Habitats:
 - P. 374 - General Habitat Rationale. The text recaps relevant programmatic actions for the East Delta Ecological Unit that apply to the eastside tributaries. Recommendations to increase perennial open-water habitat, however, may benefit nonnative fish species (e.g. predatory striped bass, largemouth bass) more than native fishes (e.g. splittail and juvenile Chinook salmon). We suggest more emphasis be placed on restoring seasonally inundated floodplain habitat rather than creating permanent open water habitat. Our studies of fish use in the lower Cosumnes floodplain demonstrate the value of seasonal shallow water habitat for spawning and rearing native fish (Summer 1999 EIP Newsletter). Studies of the Yolo Bypass showing that fish can grow twice as fast in seasonal shallow water habitat reinforce the importance of such habitat.
 - P. 375 - Seasonal Wetlands. Target 1 is stated as “Protect existing seasonal wetland habitat through fee acquisition or perpetual easements”, with a Programmatic Action 1A to “develop a cooperative program to improve management of existing, degraded seasonal wetland habitat.” Would suggest making fee acquisition and easements a second programmatic action, and leave the target as simply protecting seasonal wetland habitat, since one could have improved management without necessarily engaging in acquisition or easements.
 - Riparian and Riverine
 - P. 375 - Target 1. Restoration acreage along the Mokelumne River seems small (i.e. 1,240 acres). On Cosumnes, the Conservancy is targeting 7,000+ acres in the same area. Where along the river will the restoration occur? How wide will the strip of riparian habitat be?
 - P. 376 - Target 3. Again, it is unclear where the 1,240-acre target came from? The Conservancy has identified 7,000+ acres of restorable floodplain forest habitat along the Cosumnes River between Interstate 5 and Wilton Road. Where along the river will the restoration occur? How wide will the strip of riparian habitat be?
 - P. 376 – Rationale. Although the rationale makes reference to the negative impacts of riprapping, the targets previously listed in this section do not directly address restoration of riprapped areas.
- Stressors:
 - P. 377 - Water Diversions. As we commented earlier, actions related to diversions only deal with entrainment at unscreened diversions and not the effects on surface flow and water table.
 - P 377-378 – Dams. As noted earlier for P. 356, ¶18, an informal inspection of Granlees Diversion Dam by CDFG in 1998 suggested that the ladders’ design is deficient. In addition to this dam, there are three concrete summer dams/low flow crossings in the lower river, well below the spawning area, that the Fisheries Foundation of California and CDFG deemed to be low flow

barriers to upstream migration in normal to low-flow years. Minimum flows needed for effective passage at these dams are approximately 150 cfs.

- P. 379 – Predation. Exotic fish predators, such as striped bass, are a problem for native fishes. Efforts to increase the amount of permanent open water habitat may favor nonnative fishes, as noted in our earlier comments on habitat actions. Habitat restoration efforts should not undermine efforts to minimize predation and competition by nonnative fishes.
- P. 380 - Artificial Propagation of Fish. There should be no artificial propagation of salmon on the Cosumnes River. If there is a genetic strain of Cosumnes fish they are probably being harmed by the current transplant program of American River fish. We encourage including a third target, that of reducing reliance on hatchery fish over time, instead of just maintaining or increasing production, as habitat conditions in the Mokelumne River are improved to levels that can sustain naturally produced salmon and steelhead.
- Water Quality - We suggest adding an action focusing on water quality monitoring for the Eastside tributaries. Recent studies by D. Slotton of UC Davis indicate that the Cosumnes River has some of the highest concentrations of mercury in the Central Valley, since the river has no reservoirs to trap mercury-laden sediments.
- Species:
 - Some actions should be included for target species.
 - Chinook salmon - We recommend an action in which the genetics and life history of the Cosumnes fall-run be examined to establish whether it is a distinctive species. This is particularly interesting in light of the recent collection of a Mokelumne River smolt on the lower Cosumnes floodplain in 1998 (IEP newsletter). More information is needed on the fish before determining its needs, such as appropriate flows and other factors.
 - Giant Garter Snake and Western Pond Turtle - According to Jennings (1997), little is known regarding population levels, distribution, and age structure for these animals within the target area. Therefore, a goal should be to document these attributes.

San Joaquin River

- P. 392 - Visions for Species. We recommend adding the following targets:
 - River lamprey, which inhabit the San Joaquin mainstem from the confluence with the Merced River to the Delta.
 - Blunt-nosed leopard lizard, which inhabits portions of the valley floor when not, inundated. This species is included in the MSCS, but not addressed here.
 - Specific mention of threespine stickleback under "Native Resident Fish".
 - Western pond turtle (CA species of concern)

East San Joaquin Basin.

- P. 407 - Add western pond turtle to the list of species benefited.
- P. 406-446 - This entire section, though vastly improved is still a salmon focused plan with the ecosystem added. Broader habitat and species considerations have been imported to the text but the focus salmon. P. 406 – “stressors” are all fish stressors. The descriptions and visions dedicate the vast majority of space to fish. The targets for Central Valley Streamflows are even more revealing. There is not a mention of flows for ecosystem processes—just fish flows, in fact just anadromous fish flows. Stream maintenance flows are a study item. We recommend that this section receive special attention in the revision process. If the Toulumne is going to be a priority action area, the plan that supports these actions should reflect the ecosystem thinking called for in the Strategic Plan.

Westside San Joaquin

- P. 452 - Species that Benefit. We recommend the addition of the following targets:
 - Valley elderberry longhorn beetle, which we have identified as an exceptional or unique occurrence at Los Banos Creek. Though this species is featured in the MSCS and ERPP V1, it should also be included here.
 - Native anuran amphibians. Excellent examples within Orestimba Creek.
 - Western Pond Turtle

Watershed Program Plan

General comments:

- The Watershed Program Plan needs major refinement; especially in regards to defining the types of activities it would or would not engage in. This program has the potential of just becoming a place to appease local governments in the entire solution area as literally any action could be argued to have linkage to water. One way to get to needed clarity and prioritization of projects is to emphasize the Primary Objectives listed on P. 1-8 of "Defining the relationship between watershed processes and the goals and objectives of CALFED."
- There is no mention of conducting an analysis of threats to CALFED targets in the solution watersheds. Without an understanding of the threats, it will be impossible to prioritize strategies to deal with them.
- The Strategic Plan suggests that Deer and Clear Creeks should be used as demonstration watersheds. The Watershed Program Plan should include a discussion of how this will be done, how it will be integrated with other programs, and how and when the scientific evaluation will be conducted.

Levee System Integrity Program Plan

General comments:

- All Delta levees are restored/upgraded to PL 84-99 standards. This gets the Army Corps of Engineers involved. Incentives for reclamation districts, a 10% cost share. A foot higher and a broader base. With this level of flood control, what is to prevent landowners from taking the next step, upgrading the levees a couple more feet to urban standards and developing the Primary Delta with houses? Farming in the Delta is tough. Improved flood control will certainly lead to some degree of speculation, especially in rapidly urbanizing areas near Discovery Bay, Stockton, and Rio Vista. We will therefore need some provision for the protection of important farmlands as islands receive improved flood protection. The Delta Protection Commission should make the determination of which are agriculturally-important lands.
- SRA and Corridors - With this new standard, PL 84-99, what will happen to existing levee habitat? This new standard, proposed for all Delta levees, requires more mitigation (P.48) for loss of vegetation. Where will the mitigation go? The Strategic Plan calls for habitat restoration in Georgianna Slough, South Fork Mokelumne, Snodgrass Slough, and Steamboat Slough. We would suggest that levee improvements along these corridors be given a high priority, as they are the appropriate sites for demonstrating the feasibility of improving flood protection and habitat simultaneously. If waterside habitat is precluded by this levee standard, the provisions for PL 84-99 need review, in light of CALFED's habitat goals.
- Protection of Existing Habitat - Here and there in the Delta, we find levees with well-established riparian vegetation. A CALFED priority should be the protection of what is left, to the degree possible, with the appropriate materials (riprap, biological debris, etc.). This action is cost-effective, would decrease the need for future mitigation, and offers immediate results.
- Permitting - In order to encourage reclamation districts to maintain and improve their levees for wildlife, CALFED should provide some flexibility for levee maintenance, especially concerning the control of elderberries.

Multi-Species Conservation Plan

General comments:

- Good overall coverage of species between ERPP V1, ERPP V2, and the Multi-species Conservation Strategy. We are perplexed as to the relationship between the ERPP and MSCS and how they will be ultimately integrated. Though more comprehensive, covering just about every habitat imaginable, the MSCS sets goals that are negligible for some (e.g., upland habitats where you should replace what you remove) and overly specific for others (e.g., manage 353,933-388,933 acres of agricultural land for improved habitat values).
- We caution too close of a focus on a few species as opposed to the "ecosystem" because of the risk of taking action on "high priority at-risk species," to the detriment of others. The most common example is the winter-run Chinook, and that in attempts to provide proper flows for winter run, other native fish may suffer
- We recommend addition of the following target: American white pelican (CA species of Concern)

Implementation Plan

Comments on Suisun Marsh/North San Francisco Bay:

- Restoration of tidal wetlands in Suisun Marsh and Van Sickle Island is the only action which addresses specific habitat restoration goals. While wetlands are key to the health of the zone, restoration of other habitat types, especially the tidal and nontidal perennial aquatic, tidal sloughs and riparian and shaded riverine, should be included and implemented in stage 1.
- There is no mention in stage 1 of actions that reduce the stress of water diversions, non-native wildlife, predation and competition, contaminants, disturbance or harvest of fish and wildlife as noted in the Strategic Plan.
- Bundle actions identified in table 3.1 are inadequate for implementation of stage 1 actions identified in the Strategic Plan, and really don't adequately address the needs identified in the ERPP V2. Does this mean no significant restoration actions for this zone for seven years?
- There are no actions for the restoration of ecological processes. Although restoration of the Barker Slough watershed will likely help with flood protection, the action in the Strategic Plan calls for acquisition and restoration of floodplains and tidal marsh.
- Implementation of Suisun Marsh diversion screening program is not supported in the Strategic Plan.

Specific Comments Regarding the Cosumnes:

- We reviewed several reports with a focus on the Cosumnes River, including the ERPP V2, Strategic Plan, Phase II Report, and Implementation Plan. In general, the ERPP V2 report does a good job of describing the Eastside Delta Tributaries and outlining the important ecological processes and stressors that a restoration program will need to address. We disagree with the assessment that "Opportunities to restore fall-run Chinook in the Cosumnes River are limited" (P. 357 ¶3). The situation is not that intractable, nor is it just a fact of natural conditions that can't be improved. We are concerned that a reader might erroneously conclude from the text that restoration efforts are not worthwhile on the Cosumnes River. We have provided other detailed comments below for the Eastside Delta Tributaries Ecological Management Zone Vision.
- We were surprised to note how few of the restoration actions proposed in the ERPP V2 for the Cosumnes and Mokelumne Rivers (above their confluence) were carried forward in the Strategic Plan and Implementation Plan. Given the demonstrated feasibility and value of such actions as restoration of flood processes in the lower Cosumnes River and restoration of riparian vegetation we think there should be more.
- In the Strategic Plan, the lower Cosumnes River is incorporated into the East Delta Habitat Corridor, but no actions are specifically called out for the Cosumnes River floodplain except restoration at McCormack-Williamson Tract (Action 2) and wildlife-friendly agriculture practices at Staten Island (Action 6). This omission is not consistent with the Delta Zone Vision in the ERPP V2 (P. 66 ¶2),

which calls for protecting and enlarging areas of remaining native habitats and establishing connectivity among them, such as the Cache Slough complex and the Cosumnes River Preserve.

- In the Implementation Plan and Phase II Report, there is little for the Cosumnes and Mokelumne Rivers except in the lowest reaches where they enter the Delta. The Stage 1a bundles detailed in Table 3.1 of the Implementation Plan make no provision for actions in the Cosumnes River, although restoration at the McCormack-Williamson Tract was included in the Lower Sacramento and North Delta Bundle.
- As stated in the Strategic Plan for Ecosystem Restoration (P. 42), "Lowland alluvial rivers and streams with relatively intact natural hydrology should be identified and made a high priority for acquisition of conservation and flooding easements, setting back of levees, and other restoration actions because such actions on these rivers [i.e. Cosumnes River] are likely to yield high returns in restoration of natural processes and habitats and, ultimately, fish populations." We encourage CALFED to include more actions for the lower Cosumnes River and Mokelumne River as part of early implementation stages.

Comments on the Near Term (Stage 1a Actions). Lower Sacramento River, North Delta Bundle:

- Four actions are called out here: Restoration of Georgianna Slough's tidal marsh and riparian habitats, ecosystem/flood control and more habitat on the Mokelumne and study of reoperating the Cross Channel. We support these actions.
- P. 29-39 - We do not believe that there is any scientific or programmatic justification for including restoration in the South Delta as an early priority. It should be left out of the early action bundles

Other Comments on the Near Term (Stage 1a Actions):

- Floodplain and critical habitat such as springs on Battle Creek should be identified for easements on Deer (covered in #48?), Mill and Battle Creeks.
- A baseline assessment program should be established on Deer Creek if it is to be used as a demonstration project.
- The Implementation Plan Stage 1 Actions follows the reasoning in ERPP V2 and the Strategic Plan for Sacramento River issues adequately. However, much of what is called for in Chapter 5 Stage 1 Actions are: "experimental manipulations of flows" (P. 35 col. 2); "identify which parts of the system still have (or can have) adequate flows..." (P. 36 col. 1); "Water release operating rules could be changed to ensure greater variability of flow.... (P.41 col. 1); "Fluvialgeomorphic-ecological studies of each river before making large investments in restoration projects. (P. 42 col.1). These are very complicated and costly issues. Who is expected to take the lead on initiating a coordinated effort to address these issues of flows, sediment and stream meander? CMARP? Or is it the responsibility of others to send in proposals that address these issues? To properly implement

large-scale process based restoration, technical information from the above recommendations are needed.

- One component of process restoration should take the form of developing flow regimes that facilitate natural recruitment of riparian vegetation. Defining and implementing such flows could be incorporated into the establishment of a limited meander zone. Researchers have identified aspects of the hydrograph hypothesized to facilitate riparian recruitment. These include the components of flow necessary to build the appropriate geomorphic surfaces for colonization, a timing of the recession limb that coincides with seed release, and a rate of decline that allows developing seedlings' root systems to maintain contact with available water. Steps towards defining and implementing recruitment flows should include an analysis of the current flow regulation infrastructure's flexibility to produce naturalized flow regimes. Furthermore, a large-scale water budget needs to be constructed to evaluate how, when, and where naturalized flows could occur and the societal cost benefit ratio involved in doing so. A species matrix should be created that incorporates current life history information with respect to flow regimes. Such a matrix could facilitate evaluation of what naturalized flows could overlap with the most species (vegetation, fisheries, etc.) or priority species' needs that would generate the most benefit from re-regulated eco-flows.
- Action #40 - Sacramento River Meander Corridor Studies and Implementation. This is essentially SB 1086, and to a large extent Sac River Project's, primary focus. We support this.
- Action #'s 53.1-53.2 all have to do with monitoring and science programs to support the adaptive management element of the ERPP. We concur with these actions.
- Action #'s 55 Develop a long-term Plan for In-Stream Flows and Action #56 Develop Ecologically-based Hydrologic Models and Water Management Strategies. Both of these actions are important in the early stages of implementing restoration activities for the Sacramento River Zone. This action is critical to the long-term viability of restoration in the area. In the absence of "naturalizing" flows for riparian recruitment, planting efforts may continue to be a band aid approach. We support these actions.

Phase II Report

- Levees - Overall, we support these proposed actions, with a couple of clarifications. When you propose “further” improving levees of statewide significance (P. 114, #8), do you intend to bring the levees to an even higher protection level than PL 84-99? Your call for a total risk assessment for Delta levees (P. 114, #12) should take into account the effects on levees of continued subsidence of land elevations.
- ERPP - While we agree with much of your philosophy (P. 118-119) that prioritizes restoration activities, we suggest you also consider degree of threat. This comment is most applicable to your proposal to purchase fee title and easements; this strategy should be used for potential restoration sites that are most threatened by incompatible uses.
- In your targeted research questions (P. 120, #8) include the question of how sediment enters, is deposited, and leaves the Delta, as the development of tidal marsh and reversal of subsidence are two major goals that hinge on the answer to this question.
- In the San Joaquin River (P. 120, #11), are floodplain easements enough when what you want to do is restore riparian forest? Fee purchase makes more sense for this type of endeavor; you are simply looking for a bypass. In the Strategic Plan (P. D-9), the call is for floodplain restoration.
- The systematic prioritization of screens mentioned here (P. 120, #12) is very important, and seems to require more data than is currently available on the effects of Delta agricultural diversions on native fish. As we mentioned earlier, we are not at all convinced that this massive, “aggressive” undertaking is warranted at this time. Should studies indicate that screening agricultural intakes is necessary for native fish survival, it will be important that the efficacy of the new screens be tested.

Strategic Plan

General comments:

- The Stage 1 recommendations often do not lead one to the “early action bundles.” This is especially true in regards to *Adaptive Management Considerations* attached to each Stage 1 Action.

Detailed comments:

- Pg. D-16 - Action 5. “Develop and implement incentives for wildlife-friendly agriculture in the North Bay.” Which “Vision” in the ERPP V2 does this correspond with? Which stress does it reduce? It seems like it came from left field.
- P. D-19 - The Red Bluff to Chico Landing reach is described here as a functioning, meandering reach. However, there is very little natural recruitment occurring in this reach that actually perpetuates through time. Granted, some degree of erosion is currently occurring here but we would caution against assumptions that the appropriate geomorphic surfaces are resulting that facilitate recruitment of native riparian vegetation.
- P. D-25 - Clear Creek adaptive management considerations are in direct conflict. One states the need to formulate channel maintenance flows that remove encroaching vegetation. The other states the need to formulate flows to recruit vegetation. It gives the impression that the end result is not understood or defined for what is supposed to be an example site. Perhaps the two considerations could be simplified to “naturalizing” flows out of Whiskeytown Dam.
- P. D-28 - Action 3. Mill Creek runs directly through the town of Los Molinos. The Plan should recognize this and propose programs to help the community protect the stream habitat in town.
- P. D-28 - An analysis of threats to critical habitats along Mill Creek should be identified as an action. Purchase of conservation easements on threatened lands of critical importance to salmon in the watershed should be included as an action.
- P. D-29 - The text avoids the mention of Winter Run Salmon in regards to Battle Creek. This should be corrected.
- P. D-30 - An analysis of threats to critical habitats along Battle Creek should be identified as an action. Purchase of conservation easements on threatened lands and especially of lands that protect springs of critical importance to salmon in the watershed should be included as an action.
- P. D-30 - Action 5. See general comments on operation of the Coleman Hatchery. Fix it.
- P. D-38 - It may be more effective to first roughly outline in-stream needs prior to attempting to put a number on how much water to secure for in-stream flow. This may prevent a battle of the species regarding who gets some limited amount. We may find that species needs overlap and we could put more of a defensible science basis on how much in-stream flow is identified as a goal.